

PLASMA RESISTANT MEMBER

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Abstract of JP10236871

PROBLEM TO BE SOLVED: To obtain a member having superior plasma resistance in an atmosphere of halogen-contg. corrosive gas by forming the surface of a member exposed to plasma in the atmosphere with a Y-Al-garnet sintered compact having specified porosity and specifying the surface roughness.

SOLUTION: The surface of a member exposed to plasma in an atmosphere of halogen-contg. corrosive gas such as F- or Cl-contg. gas is formed with a Y-Al-garnet sintered compact having $\leq 3\%$ porosity and the center line average surface roughness Ra is regulated to $\leq 1\mu\text{m}$. Plasma resistance to the halogen- contg. corrosive gas can further be improved by reducing the total amt. of oxides of group IIa elements of the Periodic Table and SiO₂ contained in the sintered compact to $\leq 1,500\text{ppm}$. The resultant plasma resistant member is useful to produce constituent parts of a semiconductor producing device having a long service life.

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